

International Society for the History and Bibliography of Herpetology





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The **ISHBH** is a not-for-profit organization established to bring together individuals for whom the history and bibliography of herpetology is appealing and to promote the knowledge of related topics among members and the general public. Membership is open to anyone who shares the aims of the society.

Membership. The biennial fee for 2001-2002 is US \$30 (students US \$10, life membership US \$300). This fee includes a subscription to the society's biannual Newsletter and Bulletin (members can obtain back issues for \$7.50 each). Payment can be made with a personal check in USD or a money order. Members worldwide can use Eurogiro or Swift to pay to our account No. 455120-6 with Postgirot Bank AB, Stockholm, Swift address PGSISESS, the equivalent amounts in any currency.

Members are encouraged to contribute with articles, news of meetings, hints on antiquarian trade, book reviews or participate in a literature exchange forum. The society organizes seminars, visits to libraries, museums, research stations, etc. in connection with herpetological meetings with international participation. The society works to facilitate informal contacts among members so that the members can meet, offer support in knowledge and transact exchanges of literature and ephemera.

Formal application for membership shall be directed to the chairperson and should be addressed: International Society for the History and Bibliography of Herpetology (ISHBH), Box 2123, SE-220 02 Lund, SWEDEN.

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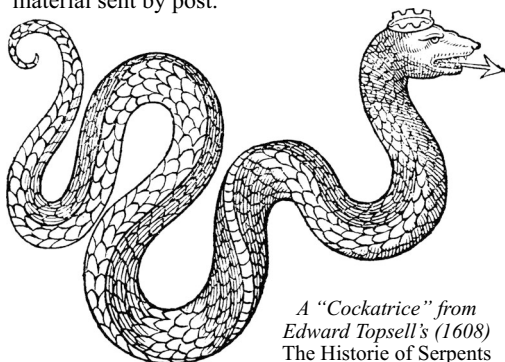
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Instructions for Authors

Authors submitting a manuscript do so on the understanding that the work has not been published before and is not being considered for publication elsewhere. All manuscripts are peer reviewed. Each issue of the Newsletter and Bulletin of the ISHBH is submitted to BIOSIS (U.K.) so that articles can be indexed for inclusion in the Zoological Record.

All manuscripts should be submitted in electronic form and preferably in Rich Text Format (*.rtf). If the manuscript is sent as a text file it should be accompanied by a hard copy to clarify formatting. We prefer to receive manuscripts as an e-mail attachment but manuscripts may also be sent by post on a 3 1/2 inch diskette. Include exact details on name(s) of the author(s) and file(s) submitted (diskettes should be labeled with this information), as well as contact information. The language of the Newsletter and Bulletin is English. British English or American English spelling and terminology may be used, but either one should be used consistently throughout the article. Consult the latest issue of the Newsletter and Bulletin for article format. The Editor reserves the right to adjust style to maintain uniformity.

Illustrations should also be submitted in electronic form. Considering the often delicate nature of illustrations in antiquarian books we feel that it is best that the owner of the work makes arrangements for scanning. However, you should contact the Editor first for advice. Color illustrations can be included but incur extra costs which will be at the author's expense. Illustration files can be sent on a CD-ROM, 100 Mb Zip cartridge, a 3 1/2 inch diskette or transferred over the Internet (contact the Editor first). Hard copies may in certain cases be submitted to the Editor for scanning but the Editor must be contacted first. The ISHBH cannot take responsibility for material sent by post.



A "Cockatrice" from
Edward Topsell's (1608)
The Historie of Serpents

Society News

Message from the Chairperson

The next meeting of the Society will be on 5 July. As is usual we will gather at a time and place when the three large USA-based herpetological societies, ASIH, HL and SSAR congregate, this year in Kansas City, Missouri between 3 and 8 July. Our business meeting will be held in conjunction with a members' luncheon that day. After the meeting the Linda Hall Library in Kansas City welcomes the members of the society in an organized tour for a special presentation of their holdings of herpetological books. This will be our second tour of a library. Those who participated in our visit at the Library of the Academy of Natural Sciences in Philadelphia in 1999 can testify how rewarding a special presentation of a library can be. See page 4 for more details about the meeting.

At present we are 96 members, up from 90 from the close of the 1999-2000-membership period. Sixty-five members have renewed their membership, thus 31 have joined for the first time during 2001-2002. Eleven have chosen to be members for life, which is particularly encouraging. North Americans are in a majority with 57 members followed by 36 in Europe, two in Asia and one in Africa. It would be specifically desirable that herpetologists and librarians and their institutions from the continents with no or just a few members get to know the society and our Bulletins.

The Society for the Study of Amphibians and Reptiles (SSAR) has for over 40 years been prolific in reprinting books and monographs in herpetology, covering the classical old works as well as those of more recent date but nonetheless out-of print with the original publishers no longer pursuing the ideas of republishing the works. The SSAR has reproduced more than 50 titles, and actively as ever continues with the series. This publishing project is a significant contribution to the herpetological community and has also been appreciated by researchers,

students and other interested readers who have acquired easy and inexpensive access to books that either would financially be out of bounds for most people or are so scarce that they never come up on the market and are unavailable in the vast majority of libraries. An extra benefit are the introductions that usually accompany the reprint editions that make them much more useful for research purposes than the original books. Experts in the field of each monograph always write these and they usually include a written portrayal of the author or authors and bibliographic notes. Also, the old nomenclature of the taxa dealt with in the book is presented with a recent one, sometimes even including other synonyms.

SSAR published in 1999 a most appreciated reprint of George Shaw's third volume of his *General Zoology* that deals with reptiles and amphibians. The original book was published in two parts in 1802 and was the first world coverage of the known amphibians and reptiles in English. Shaw's original book is printed on seven pages of preliminaries, 615 pages of text and is accompanied by 140 plates. Hobart M. Smith and Patrick David have authored the text and compiled the tables in the introduction to this reprint. It alone occupies almost 100 pages and covers Shaw as a naturalist and author, a detailed analysis of Shaw's species account, indices, a bibliography of the references cited by Shaw that is particularly interesting and an additional bibliography of citations used by the authors. B.G.E. Lacépède published in 1788-1789 two volumes on reptiles and amphibians, *Histoire Naturelle des Quadrupèdes Ovipares* and *Histoire Naturelle des Serpens*. The latter volume was suppressed by the ICZN 1987 for nomenclatural purposes but the former was not. Smith and David overlooked in their analysis of the taxa that Shaw presented that new names proposed by Lacépède in the first volume were not at all suppressed and consequently are still available. In this issue of the *Bulletin* David and

Smith together with Alain Dubois introduce the nomenclatural changes that consequently become necessary to the species accounts in the reprinted book. The authors discuss in a large part of the article the validity of Lacepède's works. It is therefore a significant contribution to the history of herpetology that we present. The reprint of George Shaw's "General Zoology, volume III, Amphibia", originally published 1802 and reprinted 1999 is still available from SSAR (contact the SSAR publications secretary at ssar@herpplit.com) or specialized book dealers. It is must for all herpetologists.

SSAR is not alone in publishing reprints of works with herpetological treatments. A publisher that deals mostly in art books has recently reproduced all the colored plates that appear in Albertus Seba's *Thesaurus* although this is not a bona fide facsimile reprint in the concept of the SSAR. Seba had in the 18th century also amassed a huge collection of preserved reptiles and amphibians in his cabinet of natural history material and included these in the four voluminous illustrated books that he published to document his collection. Aaron Bauer has reviewed the book that was published last year and he gives a background to Seba's collection and the original volumes.

Lund 2002-06-01,
Richard Wahlgren

The Society Meeting 2002

The ordinary General Assembly for 2002 will be held on July 5 in Kansas City, Missouri, in Westin Crown Center Hotel. This coincides with the large weeklong herpetological meeting that takes place in the hotel complex (for details see e.g. www.ukans.edu/~ssar/SSAR.html). The Assembly will be held in conjunction with the traditional members' lunch. After the meeting we are set for a visit to the Linda Hall Library who have invited the members for a special presentation of the library and its herpetological book holdings. The library is about five miles away from the Westin Crown Center. A shared transport will be arranged for 15 people. Upon your arrival in Westin Crown Center please watch the message board to check for the exact time and place of the gathering and also registering your interest to participate in the lunch and the library tour.

Aaron M. Bauer

Agenda for the General Assembly

1. Opening of the meeting and welcome address
2. Approving of the agenda
3. Election of a meeting chairperson
4. Election of a meeting secretary to take the minutes
5. Ratification of the Minutes of the Meeting held on 29 July 2001
6. Approval of the Treasurer's Report for 2001
7. Granting freedom of responsibility for the Executive Committee
8. Election of the Executive Committee for 2002 and 2003
9. New business

ABOUT THE COVER

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The frontispiece of this issue is a reproduction of plate No. 8 from the monumental monograph by Lajos Méhely (1862-1953), "Herpetologia Hungarica", that he began to work on in 1896 but was never published. It was painted in watercolor by Méhely and depicts *Lacerta horvathi*, Horvath's rock lizard, described in 1904 by Méhely. The original painting is now framed and hangs in the

Museum of Natural History in Budapest, Hungary. The species description was published simultaneously in Hungarian and German languages, in the Hungary-based periodicals "Állattani Közlemények" and "Annales Musei Nationalis Hungarici", respectively (Méhely 1904a, 1904b). The new species was named after Géza Horváth (1847-1937), former director of the Department of Zoology, Hungarian

National Museum, Budapest, for his merits in the exploration of the Hungarian faunas and who directed Méhely's attention to the fauna of the Croatian mountains Kapela and Velebit. A complete biography (in the Hungarian language) of Géza Horváth can be read in Csiki (1944).

The Hungarian Natural History Museum was founded in 1802 in the frame of the National Museum, and the Zoology Department was created in 1870. Géza Horváth worked in the Department from 1873 for three years as an entomologist with the position of Curator of Heteroptera. He returned in 1895 as the Director for the Department and served in this position until becoming Director for the whole Museum in 1902. The territory of Hungary at that time was almost three times larger than today, and included areas now within the borders of Slovenia, Croatia, Yugoslavia, Romania (Transylvania), and Slovakia. All these form the edges of a more-or-less coherent biogeographical region, the Carpathian Basin, which at that time was a natural target for scientific studies of Hungarian zoologists and botanists. Géza Horváth was among the first group of scientists who initiated to compile an inventory, "Fauna Regni Hungariae" published as a series of volumes from 1896. He served as the president of the Tenth International Congress of Zoology, held in Budapest 1927, with more than 700 participants of 39 countries (Csiki 1929).

Lacerta horvathi is a member of the *saxicola*-group, and its closest relative is *L. mosorensis* Kolombatovic, 1886, according to Méhely. He considered Horvath's rock lizard as a final representative of the evolutionary lineage started with *Lacerta* (*Archaeolacerta*) *saxicola* Eversmann,

1834. He also regarded the superficially very similar *Podarcis muralis* (Laurenti, 1768) as not belonging to this lineage, which was later confirmed by its allocation (Arnold 1973) from the genus *Lacerta* to *Podarcis*.

The distribution range of *Lacerta horvathi* after its discovery in the Croatian Mountains was extended by its discovery in Italy (Lapini & Dolce 1982) and Austria (Grillitsch & Tiedemann 1986). All these distribution data show a quite coherent range in the Carnic and Julian Alps where the existing populations are, however, relatively small and widely dispersed.

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Publication Date of Stejneger's Supplement, *Directions for preserving small herpetological specimens in formalin*

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As part of a larger project on the history of specimen preservation technology, I am attempting to determine when formaldehyde began to be used as a fixative for herpetological specimens. We know that fluid-preserved specimens prepared prior to around 1890 were not fixed in formaldehyde, but were preserved directly in alcohol (Ford and Simmons 1997, Harris 1979, Simmons 1993). The popularity of formaldehyde fixation in the field came about because formaldehyde was much cheaper and easier to carry than alcohol (e.g. Drown 1899).

Formaldehyde was discovered by the Russian scientist Alexander Mikhailovich Bulterov in 1859, who detected its odor while attempting the synthesis of methylene glycol (Walker 1964). It was not successfully prepared as a liquid until 1868, when August Wilhelm von Hofmann (1818-1892), a chemist at the British Royal Mint, discovered that he could prepare an aqueous mixture of formaldehyde by passing a mixture of methanol vapors and air over a heated platinum spiral (Walker 1964). In 1893, a German named Ferdinand Blum (1865-1893) in Frankfurt became the first person to use formaldehyde as a tissue fixative (Debus 1968). Blum was experimenting with formaldehyde as an antiseptic and accidentally fixed the epidermis of his own fingers (Blum 1893). Upon close examination of what he had done, he realized the potential of formaldehyde as a histological fixative.

The word formalin is an old trade name for commercial grade (40%) formaldehyde (Blum 1893, Simmons 1995). It is now generally ap-

plied to a mixture of 40% formaldehyde and water (Fink et al. 1979, Simmons 1995). As a fixative, formaldehyde is usually mixed 1:9 with water (following Blum 1893), thus "10% formalin" is really 4% formaldehyde in water (Simmons 1995).

Perhaps the most significant publication giving directions for preserving reptiles and amphibians was that of Stejneger (1891). In the original 1891 publication, Stejneger does not mention formaldehyde fixation, instead recommending that the body cavity of specimens be opened or they be injected with alcohol before being placed in the alcohol preservative. A brief supplement to this paper was later published (Stejneger, no date) on the use of formaldehyde, stating that "The formalin should be diluted by the addition of twenty times as much water. The solution should be tested from time to time for acidity and, if necessary, neutralized by the addition of a small quantity of bicarbonate of soda" (Stejneger, no date). By 1912, Ruthven was recommending the use of "4% formalin" (4% formaldehyde in water) to fix specimens without comment on its specialty use as a histological fixative nor on the need to buffer its acidity.

I am trying to determine the date of publication of Stejneger's supplement to his 1891 publication. The page contains the statement, "[Supplement to Part E of the Bulletin of the United States National Museum, No. 39.]," but is not dated.

I have corresponded with a number of librarians about this matter. All have responded that either

their libraries lacked the supplement; that it was not dated in their catalog; or that they had erroneously listed its date as 1891. Robert Young (Special Collections Librarian, Ernst Mayr Library at the Museum of Comparative Zoology at Harvard) wrote to me in 1998 that the table of contents for Bulletin 39, Parts A-S (which contains the Stejneger, 1891 paper) is dated 1911, so the supplement must have been published sometime between 1893 (Blum's publication on the subject) and 1911. Unfortunately, the MCZ library lacked the supplement, so there was no cataloging information for it. The lack of the supplement page in the MCZ library does, however, substantiate that the supplement was distributed some time after the 1891 paper itself. Alvin Hutchinson (Vertebrate Zoology Librarian from the Smithsonian Institution Libraries) wrote to me in 1992 that their copy also lacked a date. Necker (1943) lists the supplement separately from Stejneger (1891) but erroneously gives its date of publication as 1891, without explanation. In addition, Necker lists the supplement as two pages when, in fact, it is only one page.

I would appreciate hearing from anyone who can assist me with establishing the publication date of the supplement to Stejneger's 1891 paper.

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BOOK REVIEW

Albertus Seba, *Cabinet of Natural Curiosities*. The Complete Plates in Colour, 1734-1765. 2001.

Taschen, Köln. 587 pp., 6 fold-out plates.

ISBN 3-8228-1600-0. US \$150

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The “*Thesaurus*” of Albertus Seba (1734-1765) is one of the most sumptuously illustrated natural history works of the 18th century. In its colored form it is among the most desirable of all antiquarian works containing a significant amount of herpetology. The most recent colored copy on the market realized \$511,750 in the auction of the Joseph A. Freilich scientific library in January 2001. In December of 2001, an uncolored copy of volumes I and II only and lacking the portrait of Seba sold for a more modest \$12,000 at auction in Belgium. At such prices the work, even in its uncolored form, is beyond the means of all but the most serious collectors and the colored version must be considered the virtually unobtainable holy grail of herpetological bibliophiles. The modern reprint of the 449 plates of Seba’s *Thesaurus* by Taschen Books, therefore, is a major contribution to the bibliography of herpetology.

It is inappropriate to refer to *Cabinet of Natural Curiosities* as a facsimile or even a reprint edition of Seba’s *Thesaurus*. The work is not a true facsimile as the plates are not reproduced at original size (see below) and not a complete reprint because none of the original text accompanying the plates has been reproduced. Why, one might ask, would a publisher go to the trouble and expense of reproducing the plates, while leaving out the relatively cheap-to-reprint text? The answer undoubtedly lies in the nature of the publisher and its core market. Most herpetologists will be ignorant of Taschen, which publishes chiefly art and photography books. The Seba volume is one of a small number of

classic illustrated natural history works that have been “reprinted” by Taschen. Most of the others are botanical, but Wied’s *Travels in the Interior of North America* (1832-1834) with plates by Carl Bodmer is also among them. All such books have been taken on by Taschen because of the quality of their illustrations, not their scientific content. Nonetheless, *Cabinet of Natural Curiosities* offers more than color plates alone; it also presents some new commentaries on Seba, the *Thesaurus*, and the identity of the specimens illustrated in the work.

An introductory essay by Irmgard Müsch (whose background is in history, art history and archaeology) ably places Seba into the scientific, museological, and social context of his times. The essay is enlightening and brings some new perspective to Seba and his work. Nonetheless, it draws heavily on some earlier biographical sources (e.g., Cratevas 1742; Engel 1937, 1961) and does not touch on some of the issues of historical and zoological interest that have been addressed by some more recent authors (e.g. Holthius 1969, Boeseman 1970, Juriev 1981).

Albertus Seba (1665–1736) was a Dutch apothecary and businessman, who, like many men of substance of his time, used his wealth and connections to acquire natural history specimens and establish a private “cabinet of curiosities.” Such private museums were common from the 16th century until the rise of public and institutional museums late in the 18th century. Although many such collections were eclectic, combining natural history specimens with medical oddities, art, and anthropological

artifacts, Seba's collection was essentially limited to natural history material. Seba was attracted to some of the teratological specimens or other "marvels" that formed much of other cabinets of curiosity, but his focus was on what would today be considered material representative of biodiversity. In particular, his collections were especially rich in mollusk shells, a diversity of shallow water marine life, insects, and spirit preserved snakes and other reptiles. While Seba's collection was widely regarded as among the most comprehensive of the era, it was by no means unique. More than 1500 zoological collections are known to have existed in the Netherlands alone (Engel 1939, 1986). Seba and other Dutch collectors of the time had access to a wide variety of specimens that came into major centers, like Amsterdam, from the far-flung Dutch colonial and trading networks. Thus material from the East Indies, India, Sri Lanka, Surinam, the coast of West Africa, and the Caribbean made up a large portion of Seba's collections. This was supplemented by material obtained from correspondents, travelers, and collectors from North America, Europe, and the rest of the world.

One of the truly amazing things about Seba's collecting effort was that he made not one, but two world class collections in his lifetime. In 1717 Seba sold his first collection to Peter the Great of Russia for 15,000 guilders (Engel 1961). Parts of this collection, which were the foundation of Peter's *Kunstkammer*, have survived to this day, having been transferred to the Zoological Institute of Russian Academy of Sciences (Juriev 1981). Following the sale of his first collection, Seba immediately set out to build a second. It is this second collection that forms the basis for the *Thesaurus*. It too was eventually sold, in 1752, 16 years after Seba's death, in order to pay for the costs associated with the production of the last two volumes of the *Thesaurus* (Engel 1961).

The auction of Seba's second collection (Anonymous 1752, Engel 1961) resulted in the scattering of the material. Although most of the

specimens have been lost or destroyed in the intervening centuries, some material from the 1752 sale is present in the collections of the Zoological Institute of the Russian Academy of Sciences in St. Petersburg, the Zoological Museum in Amsterdam, the Natural History Museum (formerly British Museum of Natural History) in London, Naturalis, the Nationaal Natuurhistorisch Museum (formerly Rijksmuseum van Natuurlijke Historie) in Leiden, and the Muséum National d'Histoire Naturelle in Paris, amongst others (Boeseman 1970, Juriev 1981, Adler 1989). Although some specimens may have been obtained directly or by agents of museums at the original auction, most followed a more circuitous route to their eventual repositories. Boeseman (1970) traced, to the extent possible, the wanderings of Seba's material through a variety of European private and institutional museums.

One of the major purchasers was Arnout (or Aernout) Vosmaer (1720–1799), who purchased material both for his private collection and for that of the Stathouder (or Stadtholder) of the Netherlands (the Prince of Orange). In 1756 much of Vosmaer's personal collection was sold and added to the Stathouder collection when Vosmaer formally became its Director (Boeseman 1970). The Muséum National d'Histoire Naturelle gained its Seba specimens following the occupation of the Netherlands by the French Republican Army in 1795 and the subsequent confiscation and shipment to Paris of the Stathouder collection (Gijzen 1938, Boeseman 1970, Juriev 1981, Thireau et al. 1998). Although the repatriation of the collections was negotiated following the defeat of Napoleon, the material that was eventually shipped to the Stathouder in 1815 consisted chiefly of a general collection of replacement specimens, with most of the most valuable items (including many of Seba's specimens) retained in Paris (Boeseman 1970). However, some of the uncatalogued collections, perhaps including part of Vosmaer's personal collection and apparently incorporating some material from Seba, were not confiscated in 1795 and remained in the Netherlands. This material was

in turn sold in the auction of Vosmaer's collection in 1800 and in association with the later dissolution of the Stathouder collection. After passing from private collector to private collector, parts of Seba's collection, including herpetological material, was eventually purchased by the then British Museum and Rijksmuseum van Natuurlijke Historie in the mid 19th century (Boeseman 1970).

The *Thesaurus*, although based on Seba's own collections, also incorporated material from other collections as well as specimens figured in other museological or natural history illustrated works. It was published in four volumes. Volume I depicted a diversity of animals chiefly from South America and Asia, and included numerous herpetological specimens. Volume II was almost completely herpetological. Volumes III (marine life) and IV (chiefly insects) contain no herpetological subjects. Seba himself, who had a special interest in snakes, is credited with writing the text of the first two volumes, but other experts were consulted or actually wrote parts of the text. Among the most well known is Peter Artedi (1705–1735), who wrote the text accompanying the fishes, which are illustrated in Volume 3 of the *Thesaurus*. Artedi predeceased Seba, in a famous accident, drowning in one of Amsterdam's canals while returning from Seba's house to his lodgings one evening (Engel 1951). The third and fourth volumes, published in 1759 (the dating of this volume is problematic, I follow Holthius [1969] in accepting this date) and 1765 were nominally edited by Roeland Willem van Homrigh (Seba's son-in-law), but the work was supervised by Aernout Vosmaer who, as Director of the Stathouder collection, had access to much of Seba's collection at the time (Holthius 1969). Many of the more interesting or important specimens of the Stathouder collection itself were subsequently described and illustrated by Vosmaer (1766–1804).

Two editions of the *Thesaurus* were published. One with dual Latin-French text and the other with dual Latin-Dutch text. The huge number of

plates accompanying the work made it extremely expensive and the financial risks of publication were taken on by two different publishers. Seba was expected to raise some portion of the costs himself and subscriptions were taken out for the work (Engel 1937). Thirteen different artists prepared the many engravings and the difference in technique and quality can be seen in the works. Seba himself supervised the preparation of nearly all of the plates for the entire work; only plates 32–34 of volume III were added later by Vosmaer (Holthius 1969). According to Müsch, it is probable that the volumes were not sold in colored condition, but rather that individual buyers commissioned colorists independently to enhance the work. If colorists were indeed employed by individual subscribers to the *Thesaurus*, they would have required some guidelines to follow. Seba's text is insufficient to provide an accurate blueprint for coloring, so it is unclear if colorists based their work on other colored copies or if some may have gained access to the collection prior to auction in order to improve their renderings. In any case, it suggests a lack of standard which could make it more difficult to identify colored Seba plates, which are quite common on the market, as "genuine" or "contemporarily colored."

Cabinet of Natural Curiosities is not the first publication to reprint the *Thesaurus*. Seba's plates were reprinted and published in Paris in the 19th century by F.É. Guérin-Méneville. The history of this earlier reprint was outlined by Holthius (1969) and commented upon by Juriev (1981). The original copper plates used in the production of Seba's *Thesaurus* were not included in the auction of Seba's collections in 1752 (Anonymous 1752, Engel 1961), but nonetheless eventually came into the possession of the Prince of Orange – perhaps from van Homrigh via Vosmaer. The plates came to the Muséum National d'Histoire Naturelle, which sanctioned the reprint, in 1795 with the confiscation of the Stathouder collection. The plan for the reprint, which was intended to include new text by various experts (including Lesson on reptiles), was announced in the

Bulletin des Sciences Naturelles et de Géologie (Férussac 1826). Between 1827 and 1831 all of the plates were indeed reprinted in 45 livraisons of 10 plates each, but only two sheets of text (relevant only to material illustrated in volume III of the *Thesaurus*) were ever published. The number of copies printed is unknown, but 50 colored copies were planned in addition to a larger number of uncolored sets. This first reprint of Seba's *Thesaurus*, commonly called the *Planches de Seba* appears to be as rare or rarer than the original. It may, however, be the source for some (perhaps many) of the Seba plates sold in the antiquarian print trade.

In *Cabinet of Natural Curiosities* the plates are all reproduced in color and in their original order, following the reproduced title pages from each of the four volumes of the *Thesaurus*. They are reproduced in a variety of sizes. Most are full page (25 x 40 cm) or double page (48 x 40) and approximate the plates in the original edition in size. In addition, some are oversize and fold out to 40 x 76 cm and others are produced two to a page with a size of 12 x 19 cm or 25 x 19 cm (double plate), far smaller than the original. Herpetological subjects appear on the following plates in volume I: 10–12, 14–15, 19, 28, 33, 35–37, 43–44, 52–57, 62, and 70–110. In volume II, which includes 114 plates in total, only plates 69 (depicting eels, which Seba regarded as marine snakes) and 111–114 (featuring “stones” from a variety of animals) do not have at least one herpetological subject. As mentioned earlier, the later volumes have no herpetological content.

The quality of reproduction in *Cabinet of Natural Curiosities* is generally excellent. The plates were reproduced from the copy of the *Thesaurus* in the Koninklijke Bibliotheek in The Hague. I have only examined one colored copy of Seba in any detail myself, that in the Library of the Zoological Institute of Russian Academy of Sciences, St. Petersburg. From memory I would say that there are some color differences between that original and the reprint. Some of these are certainly due to differences in the styles and skills of different colorists. However, the greatest

discrepancies between the original and “reprint” plates are attributable to the warm colors of the original pigments and the depth of the original engravings, neither of which can effectively be captured by modern techniques of reproduction. This is not a criticism of this particular reprint, but a statement of the fact that underlies the bibliophile's preference for the original over a reprint edition in any case.

Cabinet of Natural Curiosities includes a section on the zoology and botany in the *Thesaurus*, authored by Rainer Willmann and Jes Rust. Seba's *Thesaurus* was a pre-Linnean work in concept and the first two volumes are also pre-Linnean in date. Although Seba knew Linnaeus, the latter's first edition of the *Systema Naturæ* appeared only in the same year as the second volume of the *Thesaurus*. As a consequence, the *Thesaurus* does not use binominal nomenclature and the arrangement of organisms is far from “natural.” Rather it was guided in part by aesthetics, with the composition of plates determined with symmetry, space constraints, and (sometimes) geography in mind (Figure 1). While Linnaeus' influence on Seba may have been limited, Seba's influence on Linnaeus was definitely significant. According to Willmann and Rust, Linnaeus (1735) cited Seba's *Thesaurus* 284 times. Typically, the specimens represented by illustrations in Seba's work were cited as the type material for many of Linnaeus' new names. Fewer citations to Seba appeared in the nomenclaturally valid tenth (1758) and twelfth (1766) editions of the works, although 28 validly described Linnean species of amphibians and reptiles were nonetheless based on Seba's plates (Adler 1989).

In the absence of Seba's original text, the identification of the specimens illustrated on the plates, is problematic. In the “reprint” each plate is accompanied by the name of the specimens portrayed. In some instances a specific or generic name is given, in others only a family or higher order name. English, German and French vernacular names are provided in most cases. In some instances the general locality associated with the specimen by Seba is also

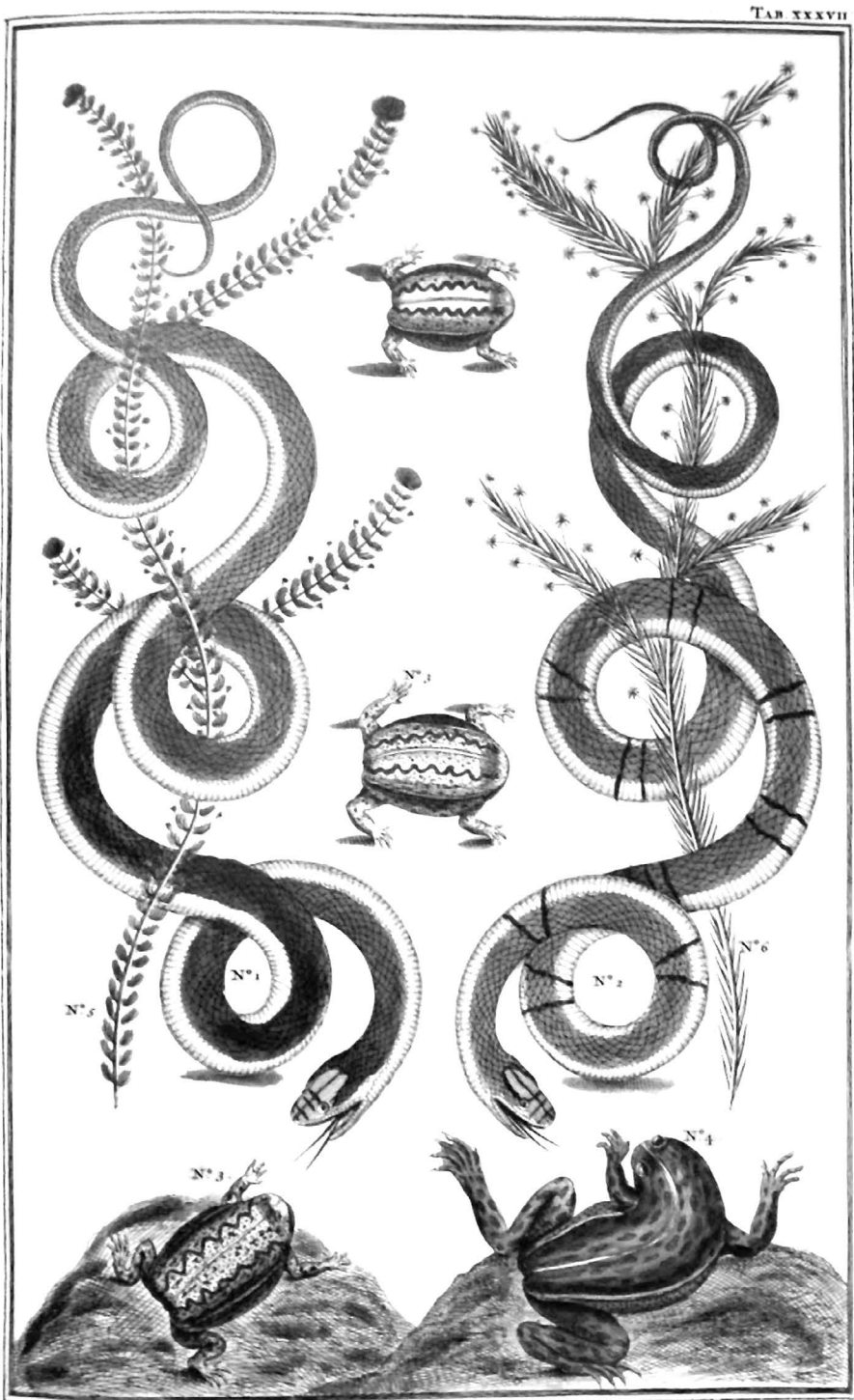


Fig. 1. Plate 37, Tomus II of Seba's Thesaurus. The artistic, rather than systematic, arrangement of organisms was typical of Seba's plates. This illustration includes a variety of African frogs (including *Breviceps* spp.) and snakes.

provided in the caption. Additional information regarding the identity of Seba's specimens is also provided in a section following the plates. This portion of the book includes an overview regarding the identification of certain major groups of organisms, including mammals, mollusks and insects, but has no commentary regarding the herpetological components of Seba's work. Instead, all herpetological information is provided in a section entitled "explanatory notes on the plates." Here the Latin names (or less precise identifications, e.g., to family) are given, sometimes with reference to the geographical distribution of the organism pictured. Conflicts with Seba's original notes on distribution or biology are also noted for some species. In the case of the herpetological plates, the identifications have been made chiefly on the basis of earlier synonymies or commentaries. Because only some of Seba's specimens were unambiguously associated with formal scientific names by way of their citation by Linnaeus (1735, 1758, 1766) or other early systematic workers (e.g., Laurenti 1768, Gmelin 1789), the identity of many of his herpetological specimens remained a matter of conjecture. Early 19th century herpetologists, particularly Merrem (1820) and Wagler and Michahelles (1833) commented extensively on the identification of Seba's amphibians and reptiles.

Although the identifications in *Cabinet of Natural Curiosities* were made with the consultation of numerous specialists at the Georg-August University in Göttingen, none were herpetologists and Willmann and Rust, the editors of the identification project, are specialists in mollusks and insects, not vertebrates. They appear to have relied heavily on the above-mentioned early sources for the identification of the amphibians and reptiles in volumes I-II of the *Thesaurus* and explicit modern commentaries about the identity of particular Seba specimens (e.g., Russell and Bauer 1988, Thireau et al. 1998) are not referenced at all. As a consequence, these notes contain numerous errors. For example, figure 3 on plate 86 of volume II portrays a *Draco*. The commentary notes that while Seba claimed the

lizard was from Africa, the genus actually occurs in South America [sic!]. In the commentary to plate 102 from volume I, however, the Asian distribution of the genus is correctly stated. Plate 108 of volume I illustrates a large number of geckos, all that are clearly identifiable are referable to *Gekko gekko*, but the commentary provides only the names *Gekko teres* and *G. verticillatus*, both junior synonyms of *G. gekko* proposed by Laurenti (1768). On plate 84 of volume I a lizard shown in dorsal and ventral view is identified as *Agama* sp., although the drawing is clearly that of a cordylid and was used by Linnaeus (1758) in his description of *Lacerta cordylus*. Oddly, given these errors and references to outdated names, the identification of figure 4, plate 20 of volume II identifies a specimen of *Anolis* as a representative of the Family Polychrotidae (rather than the Iguanidae), suggesting that a reference no older than Frost and Etheridge (1989) was consulted.

The real problem, however, is not that the commentary is flawed, but that the original text has not been reprinted. Most serious bibliophiles, as well as anyone needing the work for bibliographic, taxonomic, or historical research will still, therefore, require access to the original. The text information presented by Seba in the *Thesaurus* was frequently erroneous; understandably so, as any information about locality or natural history was at least second hand, having been gleaned by Seba from ship captains, traders or others, many of whom would have, in turn, purchased the material themselves from native collectors. Nonetheless, such information is crucial to most serious use of the *Thesaurus*. For example, it provides type localities (albeit often erroneous) for those specimens cited by Linnaeus and later authors, and gives clues as to the size of some specimens or to the origin of material illustrated from collections other than Seba's own. Such clues are especially useful in the arduous task of identifying Seba's specimens in extant collections.

These complaints aside, *Cabinet of Natural Curiosities* represents an important contribution to historical, bibliographic, and systematic

herpetological studies. Original complete copies of Seba's *Thesaurus* or the 19th century reprint of its plates are extremely scarce and essentially unavailable to most researchers. The sheer size of the volumes makes photocopying difficult or impossible and the value of the originals precludes the possibility of inter library loan. At almost 27 x 44 cm and 7.5 cm thick, *Cabinet of Natural Curiosities* is physically huge, but significantly smaller than the original volumes of the *Thesaurus* (Adler 1989). It is packaged in an even larger red cardboard box that bears a black silhouette of the same coral (from volume III, plate 115) that graces the book cover and the dust jacket. The sheer size of the book makes it awkward to use, but is necessary in order to maintain the sense of the magnitude of the original volumes. *Cabinet of Natural Curiosities*, which was published in French and German editions, as well as the English version reviewed here, seems sturdily constructed, but its own weight is sure to cause problems if the book is improperly handled or stored. The large folding plates are also a bit difficult to open and may be prone to damage in the long run.

A facsimile reprint of this size, in full color, is beyond the means of any herpetological society, but were it to be produced by a society or a university press, the cost would be many times higher. Indeed, earlier reprint editions of some classic herpetological works have been almost as expensive, but provided only black and white reproduction, or were far more expensive even though the number of plates involved was far less. It is unlikely that Taschen as an art book publisher would consider reprinting the text, but perhaps this task could be accomplished by another, more scholarly publisher. Any systematic herpetologist, anyone interested in museology or the history of herpetology (or almost any branch of natural history), and anyone who appreciates the execution of fine 18th century natural history illustrations should purchase this volume. At \$150 *Cabinet of Natural Curiosities* represents one of the all time bargains in herpetological literature.

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[Note - This paper is commonly attributed to Wagler alone and cited under the bracketed title above. However, Michahelles, who had discovered the works among the unfinished manuscripts following Wagler's death in 1832, prepared the manuscript for publication and added a short biography of Wagler preceding (columns 884-885) the main text of the paper. The paper ends where Wagler's original manuscript did, with an analysis plate 5 of volume II of the *Thesaurus*.]
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A Corrective Note on the Authorship of Taxa Credited to Lacepède and Bonnaterre in the Introduction to the SSAR's Reprint of Shaw's *General Zoology. Volume III. - Amphibians and Reptiles*, with remarks on some of Lacepède's works

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Introduction

The Society for the Study of Amphibians and Reptiles (SSAR) issued in December 1999 a most welcome reprint of Shaw (1802a-b), namely the two parts bound together in a single volume, of the third volume of Shaw's *General Zoology* which deals with the recent amphibians and reptiles. This reprint begins with a long introduction (Smith and David 1999) where the status of all taxa variously described, or not, by Shaw and many of their synonyms is discussed. However, several colleagues pointed out the existence in this introduction of discrepancies in the authorship of taxa reputed to have been described in Lacepède's volume one on "Oviparous quadrupeds" (Lacepède 1788a). In Smith and David (1999), the authorship of some taxa is correctly credited to this latter author, whereas others are erroneously credited to Bonnaterre (1789).

The confusion arose from the fact that, although Lacepède's (1789) volume two on snakes and apodal amphibians was suppressed by the ICZN (Anonymous 1987) for nomenclatural purposes, the volumes on Oviparous quadrupeds (Lacepède 1788a [edition in-4°]; 1788b-c [edition in-12°]) were not suppressed in any way, so new names appearing there are nomenclaturally available. Inadvertently, Smith and David (1999) regarded the descriptions of some taxa published in Lacepède (1788a) as invalid too, which is erroneous.

In this note, after a short description of Lacepède's volume, we review the nomina appearing in Smith and David (1999) which are credited either to Lacepède or Bonnaterre. Names of taxa appear in the same order as in Smith and David (1999), with their page number in this introduction. Other minor mistakes and inaccuracies are also corrected. The validity of nomina described in Lacepède (1788a) and its subsequent editions, and the validity of these works themselves are also discussed.

Description of Lacepède's works

Lacepède's (1788a) volume was the first in a series of two covering amphibians and reptiles, then regarded as constituted by the "Oviparous quadrupeds" and the snakes. This series, which may be regarded both as Lacepède's masterpiece and definitely a classical work in herpetology, included all chelonians, lizards and amphibians known to the author, excepting a few other taxa of these groups just cited by their French names in the "Addition" to volume two on snakes (Lacepède 1789). There is evidence to regard the original edition as being the *in-quarto* (Lacepède 1788a), whereas the *in-duodecimo* edition in two volumes (Lacepède 1788b-c) appeared some months later (see Smith and David 1999: 78).

Lacépède (1788a) is divided as follows: (Abridged title), (Full title), (Foreword), (pages 6-17), Errata, Table Méthodique des Quadrupèdes ovipares, pages 1-618, *Synopsis methodica Quadrupedum oviparorum*, pages 619-651, Plates 1-41. A reproduction of the first page of the main text, with the vignette, appears in Fig. 1.

Both the “Table méthodique” and the “Synopsis” are folded tables of a magnificent and impressive size. Although the “Table des articles” (namely the Contents) calls for the “Synopsis” to be placed at the beginning of the book, right after the “Table méthodique”, their respective position may vary. In our copy, it is inserted between page 618 and 619 at the end of the book. In another copy, the “Synopsis” is indeed placed in the beginning of the book, but before the “Table méthodique” (R. Wahlgren, pers. comm.). The “Table méthodique ...”, about 108 x 55 cm in size, presents the classification adopted by the author, from the class down to the species level; all species dealt with in the volume are included, but only under their French name. The second table, the so important “*Synopsis methodica Quadrupedum oviparorum*” (reproduced spread out in Fig. 2), about 105 x 54 cm, has a similar content, but is written in Latin. With the exception of at most six cases, which will be discussed below, the *Synopsis* is clearly binominal in the Linnean concept, making available the nomina of new species described inside. It must be stressed that this volume follows the Latin nomenclature only in this sole unpaginated table inserted inside a volume, in which otherwise only French vernacular names appear throughout, although Lacépède cited binominal nomina of Linnaeus in the synonymies of described species.

We examined two copies of Lacépède (1788a), deposited in the *Bibliothèque Centrale* of the Paris Muséum National d’Histoire Naturelle (MNHN) and the library of the MNHN’s *Laboratoire des Reptiles et Amphibiens* respectively. Whereas the former one is complete, the latter one, bearing the stamp of Gabriel Bibron, lacks the *Synopsis*, although it is announced in

the Contents. It was probably removed in one way or another, and its absence probably does not reflect the existence of two different editions, with and without the *Synopsis*.

If the paginations of the *in-quarto* (Lacépède 1788a) and *in-duodecimo* (Lacépède 1788b-c) editions are inevitably different, the texts of both editions are totally identical; we have been unable to detect even misprint differences between them, except a minor difference in the spelling of one specific name (*Testudo brevi-caudata* in the *in-quarto* edition [1788a], vs. *Testudo brevicaudata* in the *in-duodecimo* [1788c: 446]). However, the composition of figures differs somewhat between the two editions. The plates in the *in-duodecimo* edition exhibit the animals in composite, usually two species on one plate, which is not the case in the *in-quarto* (see Fig. 3, with the plate depicting “La salamandre terrestre” in regard of its text). For example:

in-4o. Plate 1: La Tortue franche.
in 12. Plate 1: 1. La Tortue franche. 2. Le caret.
in-4o. Plate 2: Le caret.
in 12. Plate 2: 1. Le luth. 2. La ronde.

Furthermore, in the *in-duodecimo* edition the two tables are reproduced in smaller segmented tables, in-text and in the same format than the remaining part of the book, as follows:

Table Méthodique des Quadrupèdes ovipares:
 Vol. I, pages 37-60.
Synopsis methodica Quadrupedum oviparorum:
 Vol. II, pages 443-462.

Corrections of some authorships in the Introduction to the reprint of Shaw

Although all citations in Shaw (1802a-b) of Lacépède’s names unambiguously refer to the original *in-quarto* edition, as seen from the page numbers, Shaw never cited one Latin binomen drawn from Lacépède (1788a). Most probably, Shaw overlooked, did not possess, or merely neglected the Latin names appearing only in the *Synopsis*, regarding French nomina cited in Lacépède as valid scientific names. However, as Shaw followed as strictly as possible the Linnean binominal system, he pro-

posed himself Latin names for those species cited in Lacepède (1788a) by their French names, creating new nominal species. Bonnaterre (1789), who was fully aware of Lacepède's works, also constantly reported only French names when he cited Lacepède (1788a) and corresponding page numbers, and never cited any Latin binomen of the *Synopsis*. However, nowhere in his works did Bonnaterre (1789, 1790) criticize Lacepède's arrangement. We suggest that, although Bonnaterre, for some reason, made a larger and clearer use of binominal Linnean nomenclature, his concept of the nomenclature was largely similar to Lacepède's views.

The nomina appearing in Smith and David (1999) which are subject to the present note are as follows:

Trachemys terrapen (p. 16, in the account of *Testudo Rugosa*). - This taxon was described on p. 129 of Lacepède (1788a), under the French name "La Terrapène", but was also cited in the *Synopsis. Classis Prima. Genus Primum. Testudo. Divisio II.^a*, under the binomen *Testudo terrapen*. Consequently, this taxon should be credited to Lacepède (1788a), and not to Bonnaterre (1789).

Pelomedusa s. subrufa (p. 18, in the account of *Testudo Galeata*). - This taxon appears on p. 173 of Lacepède (1788a) under the French name "La Roussâtre", but was also cited in the *Synopsis. Classis Prima. Genus Primum. Testudo. Divisio II.^a*, under the binomen *Testudo subrufa*. Consequently, this taxon should be credited to Lacepède (1788a), and not to Bonnaterre (1789).

Kinosternon s. subrubrum (p. 18, in the account of *Testudo Pennsylvanica*). - This taxon appears on p. 132 of Lacepède (1788a) under the French name "La Rougeqatre", but was also cited in *Divisio II.^a* of the *Synopsis* under the binomen *Testudo subrubra*. Consequently, this taxon should be credited to Lacepède (1788a), and not to Bonnaterre (1789).

Testudo punctata (p. 18, in the account of *Testudo Granulata*). - This taxon appears on p. 171 of Lacepède (1788a) under the French name "La Chagrinée", with "Les grandes Indes" as type locality (and not India, as stated by Shaw 1802a: 68). However, to the contrary of Smith and David's (1999) statement, this species was indeed also cited in the *Synopsis. Classis Prima. Genus Primum. Testudo. Divisio II.^a*, under the binomen *Testudo punctata*. Consequently, this taxon, currently known as *Lissemys punctata*, should be credited to Lacepède (1788a), and not to Bonnaterre (1789).

Shaw's description of *Testudo granulata* is entirely based on the description appearing in Lacepède (1788a). Shaw did not add anything to Lacepède's description, based on a single specimen which Shaw obviously did not examine. Consequently, Shaw's *Testudo granulata* might be regarded as a replacement name for *Testudo punctata* Lacepède, 1788, but, as Shaw did not consider Lacepède's Latin names, we believe that *T. granulata* Shaw, 1802 should be best regarded as a new nominal species based on Lacepède's (1788a) description of "La Chagrinée", and hence a junior objective synonym of *Testudo punctata* Lacepède, 1788.

Green-shelled turtle (p. 19). - This taxon appears on p. 92 of Lacepède (1788a) under the French name "La Tortue écaille-verte", as a new species, with as type localities: "dans la mer du Sud, auprès du Cap Blanco, de la nouvelle Espagne ..." and "le golfe du Mexique". However, this species was also cited in the *Synopsis. Classis Prima. Genus Primum. Testudo. Divisio I.^a*, under the binomen *Testudo viridi-squamosa*. Consequently, the valid description of this species should be credited to Lacepède (1788a).

Here again, Shaw's binomen should more properly be regarded as a new description based on Lacepède (1788a) "La Tortue écaille-verte". Wermuth and Mertens (1977: 95) regarded the binomen *Testudo viridisquamosa* Lacepède, 1788 as a junior synonym of *Chelonia mydas* (Linnaeus 1758), but *Testudo viridisquamosa* Lacepède, 1788 had previously been suppressed



Fig. 1. A reproduction of the first page, with its vignette, of the original in-quarto edition (Lacepède, 1788a).

by ICZN (Anonymous 1963). The account in Smith and David (1999) should be amended accordingly.

Rhinoceros turtle (p. 19). - Similarly to the previous one, this taxon appeared on p. 103 of Lacepède (1788a) under the French name “La Tortue Nasicorne”, with “dans les mers du nouveau Continent, voisines de l’équateur” as

type locality, but this species was indeed also cited in the *Synopsis. Classis Prima. Genus Primum. Testudo. Divisio I.^a*, under the binomen *Testudo nasicornis*. Consequently, this taxon has a valid description which should be credited to Lacepède (1788a).

Here also, Shaw did not consider Lacepède’s Latin name, and his binomen should be re-

garded as a new description based on Lacepède (1788a). According to Wermuth and Mertens (1977: 94), *Testudo nasicornis* is a junior synonym of *Caretta caretta* (Linnaeus 1758). The account in Smith and David (1999) must be amended accordingly.

Bufo igneus (p. 20, in the account of *Rana Ignea*). - Smith and David (1999) erroneously credited this taxon to Lacepède (1788a), whereas this author created, in the *Synopsis. Classis Secunda. Genus Tertium. Bufo*, the binomen *Bufo ignicolor*. This species appeared on p. 595 under the French name “Le Couleur de feu”, with *Bufo igneus* Laurenti, 1768 explicitly cited in its synonymy. Lacepède obviously regarded his *Bufo ignicolor* as a replacement name for Laurenti’s binomen. Subsequently, Bonnaterre (1789: 13) used the binomen *Bufo igneus*. Shaw (1802a: 116), under his *Rana ignea*, just mentioned Lacepède’s French name, along with another Lacepède’s name, “La Sonnante”, and also *Rana bombina* Linnaeus, 1761. Consequently, although it was not indicated, Shaw merely used Laurenti’s name, a junior synonym of *Rana bombina* Linnaeus, 1761, and did not create here any replacement name. The account in Smith and David (1999) must be amended accordingly.

Hyla rubra (p. 22, in the account of *Rana Tinctoria*). - This taxon is correctly assigned to Lacepède (1788a), in which it was described first on p. 566 under the French name “La Rouge”, with “en Amérique” as type locality, but was also cited in the *Synopsis. Classis Secunda. Genus Secundum. Hyla*, under the binomen *Hyla rubra*. The *Synopsis* in the copy of Lacepède (1788a) which we consulted is inserted between pages 618 and 619, and not on p. 621, as erroneously stated in Smith and David (1999).

Bufo terrestris (p. 23, in the account of *Rana Dubia*). - This taxon is correctly assigned to Bonnaterre (1789), in which it was described on p. 8 under both its French name “La G.[renouille] de terre” and the Latin binomen *R.[ana] terrestris*, with “La Caroline” as type locality.

Bonnaterre’s text makes clear that he intended to write an original description. This species was seemingly not known to Lacepède, although Bonnaterre described it on the basis of Catesby (1743).

The status and nomenclature of *Rana dubia* Shaw, 1802 was discussed in Dubois and Ohler (1999: 143-144). *Rana dubia* Shaw, 1802 has priority over *Bufo scaber* Daudin, 1802 and *Bufo bengalensis* Daudin, 1802. Through the designation of a neotype (ZMB 3462 [Berlin]; from “India”), also lectotype of *Bufo melanostictus* Schneider, 1799 and lectotype of *Bufo scaber* Daudin, 1802, *Rana dubia* Shaw, 1802 became a junior objective synonym of *Bufo melanostictus* Schneider, 1799, and a senior objective synonym of *Bufo scaber* Daudin, 1802.

Cyclura cornuta (p. 25, in the account of *Lacerta Iguana* var.). - This taxon is correctly assigned to Bonnaterre (1789: 40, Pl. 4: fig. 4) under both its French name “Le L.[ésard] cornu” and the Latin binomen *L.[acerta] cornuta*, with “Saint-Domingue, entre l’Artibonite et les Gonaïves” as the type locality, now the coastal region of western central Republic of Haiti. Lacepède explicitly stated that the formal description of this species would be published soon by Bonnaterre; consequently, Bonnaterre (1789) explicitly acknowledged that his new description was based on Lacepède (1789: 493; not 1788, as erroneously stated in Smith and David). In fact, although Lacepède (1789) deals with snakes and apodal amphibians, there is an Addition (pp. 487-505) in which two chelonian, three lizard and one amphibian species were described as new by their French name only. These new species were not considered in the largely binominal “Table Méthodique. Animaux sans pieds et sans nageoires. Serpens”, appearing in Lacepède (1789: 78-143).

Anolis roquet (p. 26, in the account of *Lacerta principalis* var.?). - This taxon is correctly assigned to Lacepède (1788a), in which it was described first on p. 397 under the French name “Le Roquet”, with “La Martinique” as type locality, but was also cited in the *Synopsis*.

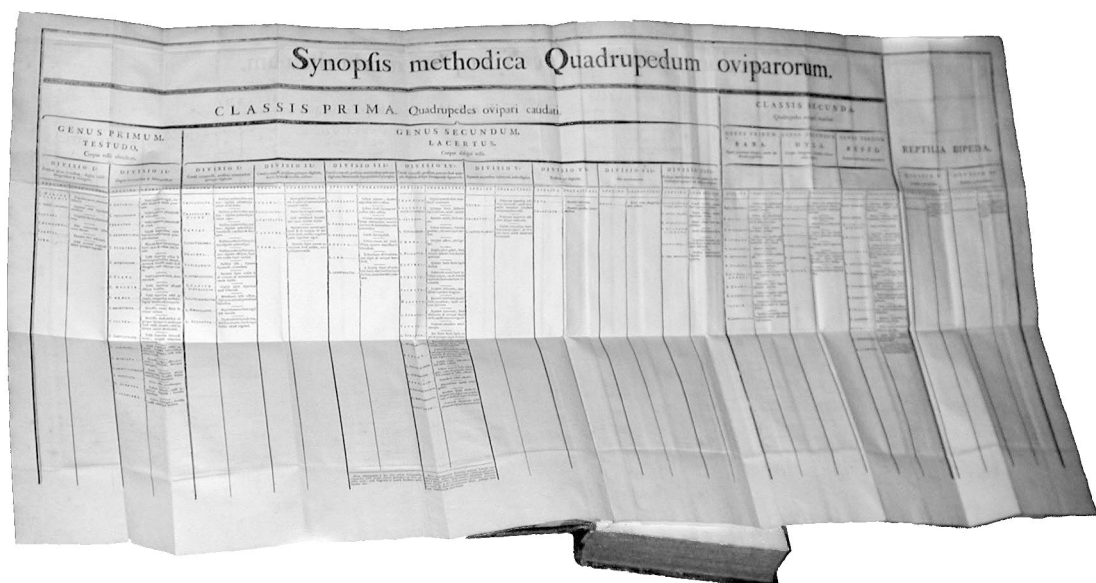


Fig. 2. The "Synopsis methodica Quadrupedum oviparorum" of the in-quarto edition, shown spread out.

Classis Prima. Genus Secundum. Lacertus. Divisio IV.^a, under the binomen *Lacertus roquet*. Strange as it may seem, Shaw (1802a) did not create any new scientific name for this taxon.

La Tête-rouge (p. 27, in the account of *Lacerta Erythrocephala*). - *Lacerta Erythrocephala* (now *Ameiva erythrocephala*) was described by Shaw (1802a: 236) on the basis of a description without scientific name which appeared on page 495 in the "Addition" of Lacépède (1789), under the sole French name "La Tête-rouge", with "Ile de Saint-Christophe" as type locality. As explained above in the account of *Cyclura cornuta*, this new species was not considered in the largely binominal "Table Méthodique. Animaux sans pieds et sans nageoires. Serpens", and, furthermore, appeared in a work invalidated by the ICZN (Anonymous 1987). Shaw (1802a) remains the author of the original description.

La Geckotte (p. 29, in the account of *Lacerta Dubia*). - This species was first described on p. 420 of Lacépède (1788a; not 1789 as stated by Smith and David 1999) under its sole French name, but was also cited in the *Synopsis. Classis Prima. Genus Secundum. Lacertus. Divisio V.^a*, under the binomen *Lacertus geckotus*, with as

localities "Amboine ... Les Indes et en Barbarie; à Saint-Domingue, jusqu'en Provence". Although his text bears mainly on *Tarentola mauritanica*, Lacépède (1788a) placed in the synonymy of his *Lacertus geckotus* the species *Lacerta mauritanica* Linnaeus, 1758, *Gekko verticillatus* Laurenti, 1768 and *Gekko muricatus* Laurenti, 1768, making hence *Lacertus geckotus* a subjective synonym of these nominal species.

The valid binomen *Lacertus geckotus* was not considered by Shaw (1802a: 267) in his description of *Lacerta dubia*. We consider that Shaw did not create a replacement name, but named a new species based on Lacépède's description. However, Shaw followed Schneider in not regarding Lacépède's taxon as a synonym of *Lacerta mauritanica* Linnaeus, 1758. *Lacerta dubia* becomes a junior objective synonym of *Lacertus geckotus* Lacépède, 1788, and a junior subjective synonym of *Lacerta mauritanica* Linnaeus, 1758. The account in Smith and David (1999) must be amended accordingly.

Mabuya mabouya (p. 30). - This taxon is correctly assigned to Lacépède (1788a), in which it was described first on p. 378 under the French name "Le Mabouya", with "aux Antilles" as

type locality, but was also cited in the *Synopsis. Classis Prima. Genus Secundum. Lacertus. Divisio IV.^a*, under the binomen *Lacertus mabouya*. Shaw (1802a: 287) only cited the French name. The specific name *mabouya* Lacepède, 1788 was placed on the *Official List of Specific Names in Zoology* (as Name No. 59) (Anonymous 1954. Opinion 240), a nomenclatural decision overlooked by Mayer and Lazell (2000).

Annulated chalcides (p. 32). - Shaw (1802a: 307) based his account on Lacepède (1788a); however, he did not mention the scientific name or the synonymy provided by Lacepède, just referring to the French name. This acknowledged new species was first mentioned on p. 443 of Lacepède (1788a) under its sole French name “Le Chalcide”, without any locality, but was also cited in the *Synopsis. Classis Prima. Genus Secundum. Lacertus. Divisio VI.^a*, under the binomen *Lacertus chalcides*. According to the synonymy provided by Lacepède, the specific name is obviously based on *Lacerta chalcides* Linnaeus, 1758. Surprisingly, Shaw overlooked this synonymy and did not realize that this taxon was just the same as *Lacerta Chalcides* Linnaeus, 1758, which he described extensively on p. 305. This taxon is now known as *Chalcides chalcides* (Linnaeus 1758), and the account in Smith and David (1999) must be amended accordingly.

Bipes canaliculatus (p. 32, in the account of *Lacerta Lumbricoides*). - This species appears on p. 613 of Lacepède (1788a) under the French name “Le Cannelé”, but was also cited in the *Synopsis*, in a somewhat marginal class named *Reptilia. Bipeda. Divisio I.^a*. The species merely appeared under the combination *B. canaliculatus*. To the contrary of *Classis Prima* and *Classis Secunda*, where generic nomina are clearly written (see the discussion below), there is no generic nomen cited for this taxon, although it is obvious that Lacepède intended to use the generic name *Bipes*, nominative declension of the name *Bipedida* used by Lacepède as a supra-generic taxon. The same lack of explicit generic nomen appears in Bonnaterre (1789: 68). The

nomenclatural history of the generic name was discussed by Smith and Smith (1977), who eventually credited it to Latreille in Sonnini and Latreille (1801: 90). This problem lies outside of the scope of the present paper, but, as far as the specific nomen is concerned, Lacepède’s specific epithet is valid, according to the *Code* (Anonymous 1999), Art. 11.9.3.1, although it was described without a valid or available generic nomen. Consequently, this taxon should be credited to Lacepède (1788a), and not to Bonnaterre (1789), as *Bipes canaliculatus* (Lacepède 1788).

We take the opportunity of the present paper to correct another mistake present in Smith and David (1999), which affected the spelling of the author’s name Sparrman. Shaw (1802: 279) himself, in his account of *Lacerta Sparrmanniana*, spelled the name as Sparrmann. He overlooked that Sparrman, of Swedish decent, wrote his name with one “n” and furthermore omitted an “r”. Smith and David (1999) used the incorrect spelling Sparrmann under the accounts of *Lacerta Principalis* var.? (p. 26), of *Lacerta Sparrmanniana* and *Lacerta Sputator* (both on p. 30), and in the Bibliography (p. 89). In all these cases, the spelling should be corrected into Sparrman. Some mistypings also plagued the citation of Sparrman (1778); the correct citation is given in the Bibliography of the present paper.

Nomenclatural discussion: binominal or not?

Other Lacepède’s names cited in Smith and David (1999) refer to snake species and all appeared in Lacepède (1789). A description of this work has been given by Brongersma (1972). All these nomina were suppressed following ICZN’s decision (Anonymous 1987), with the exception of a few of them, mostly for American taxa, which were conserved in the same paper; they will not be discussed further here. Fortunately, all snake specific epithets still in use, with the notable exception of *Coluber viridiflavus* Lacepède, 1789, were cited with-

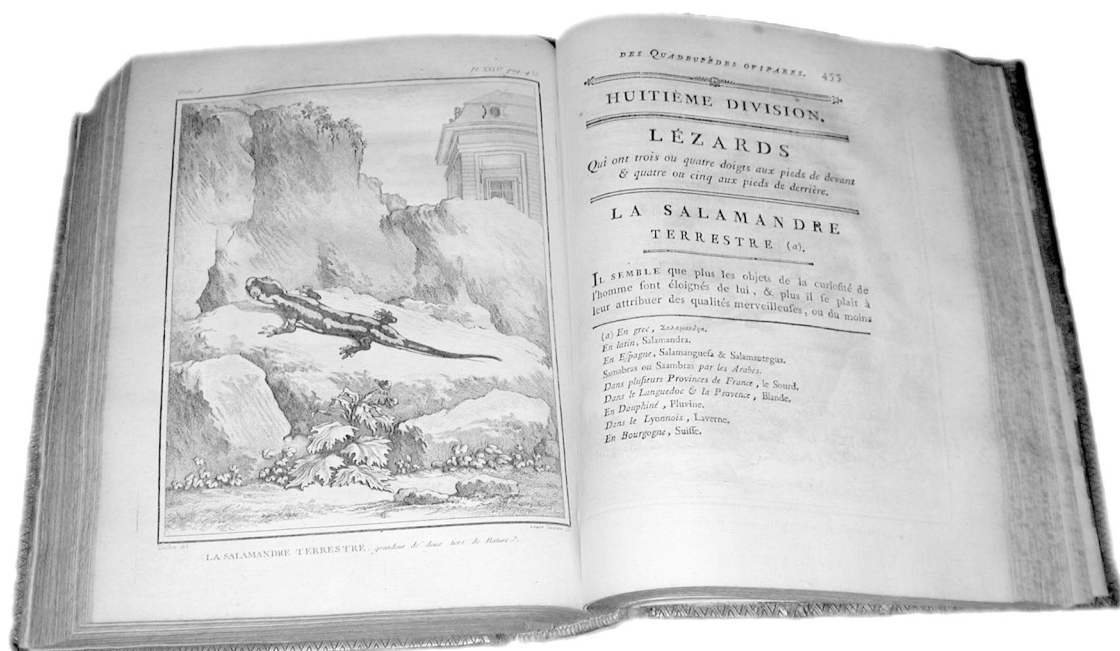


Fig. 3. An example of plate illustrating the in-quarto edition, in regard of the corresponding species account, here “*La salamandre terrestre*”.

out change in Bonnaterre (1790), which stands as the original description of these nomina. *Coluber viridiflavus* was subsequently conserved (Anonymous 1992).

No one can deny that Lacepède’s original work on Oviparous quadrupeds (Lacepède 1788a) is binominal only for a small fraction of it, since, as explained above, Lacepède followed Linnean binominal nomenclature only in the unpaginated “*Synopsis*”. In Lacepède (1788b-c), issued the same year, the “*Synopsis*” is integrated with the text and consequently was given a more accessible place. Nevertheless, these works are binominal only, but definitely through their respective “*Synopsis*”. Moreover, the author presented the taxa in such a way, that a casual reader, or any person unfamiliar with both French and Latin languages, may well believe that most nomina (at least 34) are not binominal at all (see, for example, the interpretation of Mayer and Lazell, 2000: 882-83), a point which requires explanation.

The *Synopsis methodica Quadrupedum oviparorum*, as appearing under its full title, is

divided into two Classes: “*Classis Prima. Quadrupedes ovipari caudati*” (First class. Tailed oviparous quadrupeds), and “*Classis Secunda. Quadrupedes ovipari ecaudati*” (Second class. Tailless oviparous quadrupeds). Each class is divided into genera, unambiguously indicated as such by Lacepède, and written in Latin. In the First class, the author listed two genera: *Genus primum. Testudo*; *Genus secundum. Lacertus*. These genera are divided into two and eight divisions (Divisio) respectively, these divisions, unnamed, being seemingly a convenient way to group supposed allied species. In the Second class the following genera are included: *Genus primum. Rana*; *Genus Secundum. Hyla*; *Genus tertium. Buffo*. These three genera are not divided into divisions. The *Synopsis* is concluded by a separate section, entitled *Reptilia Bipeda* (Biped Reptiles), in which no genus is indicated. The section is merely divided into two divisions, according to the anterior or posterior positions of the legs. Only two species are included.

It should be noted that Lacepède created two unjustified emendations which have been over-

looked in the literature, namely *Lacertus* Lacepède, 1788, unjustified emendation of *Lacerta* Linnaeus, 1758, and *Buffo* Lacepède, 1788, unjustified emendation of *Bufo* Laurenti, 1768 (we suggest that the nomen *Buffo* was probably dedicated to Lacepède's master, the eminent French naturalist George-Louis Leclerc, comte de Buffon). These generic nomina do not seem to have been used or even cited in synonymies, after Lacepède's works, although they were listed by Neave (1939a: 498) for *Buffo* and Neave (1939b: 844) for *Lacertus*. However, these nomina, like all unjustified emendations, are to be considered nomenclaturally "new replacement names" (neonyms, sensu Dubois, 2000), and therefore have a status in nomenclature. This has some importance, especially regarding homonymy: thus Lacepède's generic nomen *Buffo* preoccupies this spelling for the whole of Zoology. As a consequence, *Buffo* Denys de Montfort, 1810 (a junior synonym of *Bursa* Röding, 1798, a mollusc genus of the family of Bursidae) is a primary homonym of *Buffo* Lacepède.

Then, under the genera or their divisions the text is divided into two columns: in the left column are listed the 115 taxa nomina recognized by Lacepède, all written in Latin except one in the Biped Reptiles (Scheltopusik). For each nomen, arranged without logical order, the diagnostic characters appear opposite in the right column, also constantly written in Latin. The problem of the nomenclatural availability of Lacepède (1788a, b-c), may arise here, as specific nomina appear either as a single epithet (34 cases), or under a binominal combination (71 cases), either with the generic nomen repeated in full or, most often, with an abbreviated genus nomen, or even in trinominal combinations (8 cases). Last, in one case, the generic nomen does not appear clearly, although it is abbreviated (as *B. canaliculatus*, obviously for *Bipes canaliculatus*), and one and only one of these 115 taxa is not written in Latin nor is binominal at all, as shown above.

Among the 113 remaining cases, it should be remembered that Lacepède clearly and con-

stantly (except again in the Bipeds) indicated the generic nomen in the head of his genera or divisions. Consequently, the single specific epithets appearing in the left column are not orphans on a nomenclatural basis, and are obviously connected to a generic epithet, making this nomenclature perfectly binominal, to the contrary of Mayer and Lazell's (2000) statement. Now, why did Lacepède sometimes list only single epithets (34 cases), sometimes repeating the generic nomen in this left column (71 cases)? In fact, a close look at the used specific names immediately reveals that Lacepède, constantly and unambiguously, DID NOT repeat the generic nomen when the specific epithet was a noun in apposition (*caretta*, *lyra*, *terrapen*, *crocodilus*, *gavial*, *tupinambis*, *iguana*, *basiliscus*, *mabouya*, and so on ...), except in one instance for *L.[acertus] leo*. In a similarly constant and unambiguous way, Lacepède ALWAYS indicated either the full generic nomen (*Lacertus caudacyaneus*), or, in most cases, the first letter of the genus, when the specific epithet was an adjective, or an adjective-based epithet treated as such, for example *T.[estudo] viridi-squamosa*, *T. lutaria*, *L.[acertus] capite-bifurcatus*, and so on. So, what may appear to be an inconstancy in the application of the Linnean binominal nomenclature (see Mayer and Lazell, 2000) is obviously more a problem of presentation and style, probably based on some Latin grammatical considerations precluding the use of adjective-based specific epithets as single words. The few exceptions noted above, such as *Lacertus leo*, may be due to the notorious careless character of Lacepède (see Adler 1989). In conclusion, by no means should specific epithets appearing as single nomina be regarded as uninominal taxa, as the generic nomen is clearly indicated in the head of the relevant column, nor the repetition of the generic nomen, abbreviated or not, before adjective-based specific epithets should be considered to be the use of trinominal nomenclature, as this style is due to some grammatical consideration. Obviously, for most taxa, namely 105 out of 115, Lacepède used binominal nomenclature, although sometimes in a peculiar format.

These considerations in mind, only 10 cases of non binominal nomenclature possibly remain in the whole of the *Synopsis*. In six instances, in *Classis Prima. Genus Secundum. Lacertus. Divisio VIII.^a*, dedicated to the Salamanders, did Lacepède list a combination of two nomina in the species column, under the general generic name *Lacertus*: *Salamandra terrestris*, *S. caudaplana*, *S. punctata*, *S. quatuor-lineata*, and *S. ter-digitata* (spelling cited verbatim); a sixth taxon is cited only with an uninominal nomen, *Sarroube*. We might interpret these citations in three ways: either (1) Lacepède indeed wanted to use the generic nomen *Salamandra*, but failed to mention it clearly; or (2) *Salamandra* might be regarded as a subgenus; or (3) Lacepède applied trinominal nomenclature to five related taxa deserving the same specific epithet, *salamandra*, the third nomen merely indicating a different variety. In this case, the sixth one, the specific epithet *Sarroube*, a noun in apposition, could rightly be cited alone according to Lacepède's style discussed above. For the later reason, and considering both the French text and the whole style of the work, we would favour the third possibility, under which the Common Salamander appears as *Lacertus salamandra terrestris*. A cue to this interpretation is the presence of another trinominal nomen in the genus *Lacertus*: in *Genus Secundum. Lacertus. Divisio I.^a*, Lacepède listed [*Lacertus*] *crocodilus* (alone, as the specific epithet is as a noun in apposition), then immediately after it placed [*Lacertus*] *crocodilus niger*, for a black variety of the Common Crocodile. The author clearly adhered there to a trinominal nomenclature. Lacepède followed Linnean nomenclature, gathering specific epithets (*salamandra*, *crocodilus*) under generic names, with five and one variety, respectively, which also appear with a Latin nomen.

This analysis leaves us with only four taxa out of 115 for which Lacepède did not follow at all, including in the "*Synopsis*", the Linnean bi- or trinominal nomenclature: *T.[estudo] marina vulgaris* (*Classis Prima. Genus Primum. Testudo. Divisio I.^a*), *Hyla viridis seu vulgaris* (*Classis Secunda. Genus Secundum. Hyla*), *B.[?]*

canaliculatus, and Scheltopusik, in *Reptilia Bipeda. Divisio I.^a* and *Divisio II.^a* respectively.

We would not like to revive the controversy which arose following the suppression of Lacepède (1789) and its subsequent editions. This decision, eminently controversial considering the historical importance of such a classical work, was discussed by Bour and Dubois (1983). Lacepède (1789) was suppressed on the basis that it includes a number of exceptions to the principle of binominal nomenclature. This fact cannot be contested, but we would like to point out here that other classical herpetological works also suffer from the same shortcomings. Several examples in this respect were already provided by Bour and Dubois (1983), especially Vandelli (1761), in which the author published the description of *Testudo coriacea*, now *Dermochelys coriacea*, in an open letter to Linnaeus, in order for the latter author to include the new species in his *Systema Naturae*. That the nomen of the taxon did not appear in the original publication under the nominative singular cannot hide the fact that Vandelli had obviously in mind the Linnean nomenclature. Other similar examples were cited in Bour and Dubois (1983) of very early herpetological works in which species described there still are considered valid.

Indeed, in all rigour, Lacepède (1788a, 1788b-c) cannot be stated to adhere fully to the principle of the Linnean nomenclature. In four cases (out of 115), this work departs from this principle. Such a low number makes it hard to believe that Lacepède did not want to follow the Linnean binominal nomenclature. It even suggests to us that these shortcomings are more or less careless mistakes. Bonnaterre (1789, 1790), who largely reproduced Lacepède's descriptions and taxonomic names, made a greater and more careful use of Latin binominal nomenclature in naming his taxa, but nowhere suggested that Lacepède did not want to follow Linnean nomenclature. Whatever the thoughts of Lacepède, we would like to conclude this discussion with the following case: a quick and casual look at Laurenti (1768), a work which,

fortunately, nobody ever thought to “suppress” revealed not less than in six (out of 241 species) is there an obvious deviation from the binominal nomenclature: *Chamaeleo bonae spei* (p. 46), *Chalcides tridactyla Columnae* (p. 64), *Naja non Naja* (p. 92), *Coluber vipera Anglorum* (p. 98), *Vipera Mosis Charas* (p. 100), and *Constrictor rex serpentum* (p. 107). Undoubtedly, a rigid application of the rules of nomenclature should have required the suppression of this very important work. The idea to support and even to propose such a case is far from us, all the more since this book was placed on the “Official List of Works Approved as Available for Zoological Nomenclature” (Anonymous 1957. Direction 65), but we would support any action towards the revalidation of Lacépède (1789). The cause of nomenclatural stability, which, according to the *Code*, should be the current direction of nomenclatural decisions, would undoubtedly benefit greatly.

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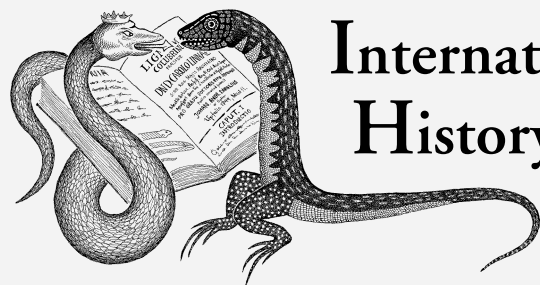
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